STATE OF UTAH WEBER STATE UNIVERSITY



State of Utah-Department of Administrative Services

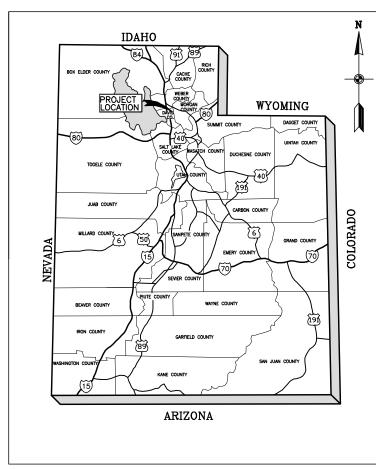
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

4110 State Office Building - Salt Lake City, Utah 84114 - 801-538-3018



VISUAL ARTS BUILDING STORM DRAIN IMPROVEMENTS DFCM PROJECT # 08060810

DRAWINGS FOR CONSTRUCTION OF VISUAL ARTS BUILDING STORM DRAIN IMPROVEMENTS WEBER STATE UNIVERSITY



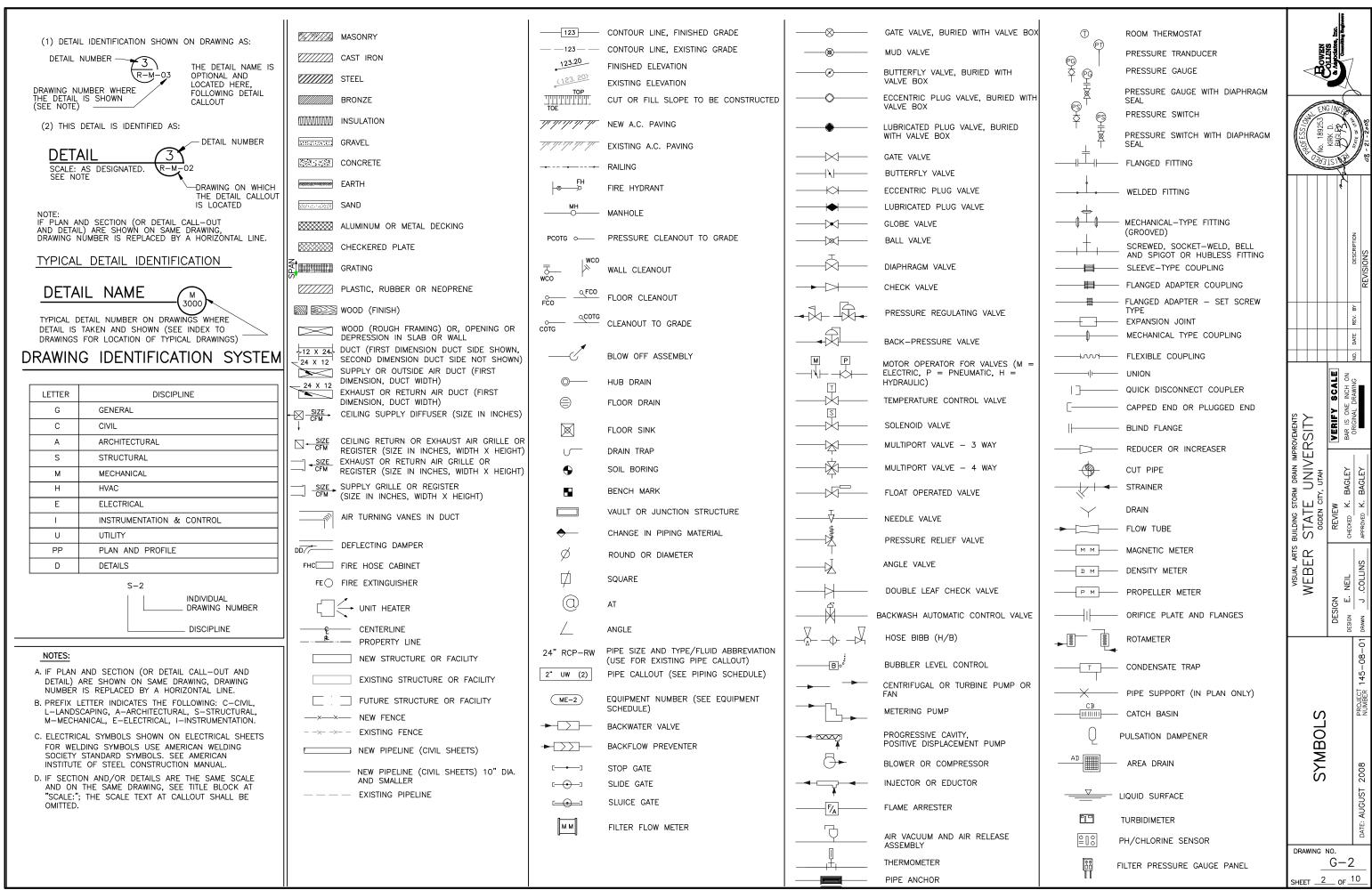
PROJECT LOCATION MAP

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PROJECT VICINITY MAP





GENERAL NOTES:

- 1. EROSION AND SEDIMENTATION CONTROL: CONTRACTOR SHALL CONSTRUCT BERMS AND/OR DRAINAGE DITCHES AS NEEDED TO KEEP STORM RUNOFF FROM ENTERING CONSTRUCTION EXCAVATIONS OR INTERFERING WITH CONSTRUCTION EFFORTS.
- CHANGES: IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PERFORM CONSTRUCTION AS PER THE CONTRACT DOCUMENTS. ANY ADDITIONS, DELETIONS, OR CHANGES SHALL FIRST MEET WITH THE APPROVAL OF THE ENGINEER
- SYMBOLS: SYMBOLS, LEGENDS, AND PIPE USE IDENTIFICATIONS SHOWN SHALL BE FOLLOWED THROUGHOUT THE PLANS, WHEREVER APPLICABLE. NOT ALL OF THE VARIOUS PIPING COMPONENTS ARE NECESSARILY USED IN THE PROJECT.
- THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING IMPROVEMENTS, WHICH ARE TO REMAIN IN PLACE, FROM DAMAGE. ALL SUCH IMPROVEMENTS OR STRUCTURES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR RECONSTRUCTED TO ORIGINAL OR BETTER CONDITION TO THE SATISFACTION OF THE OWNER AT THE EXPENSE OF THE CONTRACTOR, UNLESS NOTED OTHERWISE.
- THE CONTRACTOR SHALL BE REQUIRED TO KEEP ALL CONSTRUCTION ACTIVITIES WITHIN THE ESTABLISHED RIGHTS—OF—WAY AND EASEMENTS AS SHOWN. THIS SHALL INCLUDE BUT NOT BE LIMITED TO, VEHICLES AND EQUIPMENT, LIMITS OF TRENCH EXCAVATION, AND EXCAVATED MATERIAL AND BACKFILL STORAGE. IF THE CONTRACTOR REQUIRES ADDITIONAL CONSTRUCTION EASEMENTS, IT SHALL BE SOLELY THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN SUCH EASEMENTS FROM INDIVIDUAL PROPERTY OWNERS.
- LAY PIPE TO UNIFORM GRADE BETWEEN INDICATED ELEVATION POINTS AND ALONG HORIZONTAL ALIGNMENT AS DEFINED IN THESE DRAWINGS. CONTRACTOR SHALL NOT DEVIATE FROM PROPOSED ALIGNMENT WITHOUT A WRITTEN APPROVAL BY THE
- 7. JOINTS AND FITTINGS: SIZE OF FITTINGS SHOWN ON THE PLANS SHALL CORRESPOND TO ADJACENT STRAIGHT RUN OF PIPE, UNLESS INDICATED OTHERWISE. TYPE OF JOINT AND FITTING MATERIAL SHALL BE THE SAME AS SHOWN FOR ADJACENT STRAIGHT RUN OF PIPE. ALL PIPE JOINTS SHALL BE WATER TIGHT.
- 8. UTILITY LOCATIONS: EXISTING UTILITIES SHOWN ON PLANS ARE BASED ON A RECORD SEARCH BY LOCAL CONTROLLING AGENCIES AND ARE APPROXIMATELY LOCATED. EXISTING UTILITIES ARE SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF, AND PRESERVING, ALL UTILITIES INCLUDING THOSE NOT SHOWN OR INCORRECTLY SHOWN ON THE PLANS. CONTRACTOR SHALL NOTIFY UTILITY COMPANIES TWO (2) WEEKS IN ADVANCE OF UTILITY CONFLICTS REQUIRING RELOCATION OF MAIN LINES, AND ONE (1) WEEK IN ADVANCE OF CONFLICTS REQUIRING RELOCATION OF SERVICE LÀTÉRALS.
- SERVICE CONNECTIONS: THE CONTRACTOR IS RESPONSIBLE FOR LOCATING SERVICE LINES FOR GAS, SEWER, WATER, IRRIGATION, POWER, STORMDRAIN AND OTHER UTILITIES, AND REPAIRING DAMAGE TO SUCH LINES AS A RESULT OF THE CONTRACTOR'S OPERATIONS. IN GENERAL, SERVICE CONNECTIONS FOR UTILITIES ARE NOT SHOWN ON THE DRAWINGS.
- 10. EXCAVATION SAFETY: EXCAVATION LIMITS SHOWN IN THE DETAILS ARE GRAPHICAL REPRESENTATIONS ONLY, AND DO NOT REPRESENT ACTUAL EXCAVATION LIMITS OR SAFE TRENCH CONDITIONS REQUIRED TO COMPLETE THE WORK. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONFORMANCE WITH LOCAL AND FEDERAL CODES GOVERNING SHORING AND BRACING OF EXCAVATIONS AND TRENCHES, AND FOR PROTECTION OF WORKERS.
- 11. THRUST RESTRAINT: CONTRACTOR SHALL PROTECT ADJACENT PRESSURE PIPELINES AND PROVIDE TEMPORARY THRUST RESTRAINT AS NECESSARY DURING CONSTRUCTION. ALL NEW PRESSURE PIPE AND FITTINGS SHALL HAVE THRUST RESTRAINED JOINTS, THRUST BLOCKS, THRUST TIES OR OTHER APPROVED RESTRAINT. THRUST PROTECTION SHALL BE ADEQUATE FOR TEST PRESSURE SPECIFIED.
- 12. SURVEY MONUMENTS: CONTRACTOR SHALL NOT DESTROY, REMOVE, OR DISTURB ANY EXISTING SURVEY MONUMENTS WITHOUT AUTHORIZATION OF CONTROLLING AGENCY. NO PAVEMENT CUTTING OR REMOVAL SHALL BEGIN UNTIL ALL SURVEY MARKERS OR MONUMENT POINTS THAT HAVE THE POTENTIAL OF BEING DISTURBED BY THE CONSTRUCTION OPERATIONS HAVE BEEN PROPERLY REFERENCED BY A REGISTERED LAND SURVEYOR. ALL SURVEY MONUMENTS OR POINTS DISTURBED BY THE CONTRACTOR SHALL BE ACCURATELY RESET BY A REGISTERED LAND SURVEYOR AFTER ALL RESTORATION AND RESURFACING HAS BEEN COMPLETED.
- 13. ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE RESTORED AS SPECIFIED.
- 14. CONTRACTOR SHALL BACKFILL TRENCH AREAS WHERE UTILITIES CROSS UNDER EXISTING BURIED UTILITIES WITH FLOWABLE FILL (CLSM - TYPE O MATERIAL) IN ACCORDANCE WITH SECTION 02300 IF STANDARD MECHANICAL COMPACTION EQUIPMENT CAN NOT ADEQUATELY COMPACT BACKFILL.

- 15. ALL BURIED REBAR, FITTINGS, COUPLINGS, VALVES AND MECHANICAL JOINT NUTS AND BOLTS ARE TO BE COATED WITH NON OXIDE GREASE CHEVRON FM 1 OR APPROVED EQUAL, COVERED WITH 8 MIL POLYETHYLENE SHEETING, AND TAPE WRAPPED WITH AWWA C209 OR 214, 70 MIL MIN THICKNESS.
- 16. OVER HEAD POWER: CONTRACTOR SHALL COMPLY WITH SAFETY REQUIREMENTS AS REQUIRED FOR OPERATING CONSTRUCTION EQUIPMENT BENEATH HIGH VOLTAGE POWER LINES.
- 17. IF THE CONTRACTOR CHOOSES TO WORK ON THE PROJECT WHEN HOT MIX ASPHALT IS NOT AVAILABLE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING APPROVAL FROM THE APPROPRIATE GOVERNING AGENCY PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY ASPHALT SURFACING MATERIAL WHEN PERMANENT ASPHALT BECOMES AVAILABLE, THE CONTRACTOR SHALL REMOVE THE TEMPORARY ASPHALT, FURNISH AND INSTALL THE PERMANENT ASPHALT AT NO ADDITIONAL COST TO THE OWNER.
- 18. CONTRACTOR SHALL ADJUST GRADE OF NEW CLEAN OUT RIMS, VALVE BOXES, AND INLET GRATES TO MATCH ELEVATIONS OF PROPOSED GRADES.
- 19. CONTRACTOR SHALL PLUG ENDS OF ABANDONED PIPES WITH CONCRETE.
- 20. CONTRACTOR SHALL IMPLEMENT MEASURES DURING CONSTRUCTION THAT WILL PREVENT RUNOFF, DEBRIS AND SEDIMENT FROM ENTERING UNFINISHED PORTIONS OF THE NEW PIPE DURING CONSTRUCTION.

GENERAL

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VISUAL ARTS		WEDER		DESIGN	IIIN II	DESIGN L	0	W J. COLLINS
		CL	NOIES				PROJECT 11E 00 01	NUMBER 143-00-01 DRA

© AT CONC CONCRETE, CONCE		FIRE EXTINGUISHER	LWL	LOW WATER LEVEL	PVI	POINT OF VERTICAL INTERSECTION		
AASHTO AMERICAN ASSOCIATION OF STATE COND CONDENSER, COND HIGHWAY TRANSPORTATION OFFICIALS CONN CONNECTION	ENSATE FF F TO F	FLAT FACE, FAR FACE, FINISH FLOOR	LWR	LOWER	PW	POTABLE WATER	l _v	VALVE, VENT, VOLT, VACUUM
AB ANCHOR BOLT CONSTRUCTION, CO		FACE TO FACE FINISH GRADE, FLOW GLASS					VAR	VARIES, OR VARIABLE
ABBR ABBREVIATION CONTINUED, CONTI	NUOUS, CONTINUATION FH	FIRE HYDRANT	М	METER, MALE (PIPE THREAD)	RAD	RADIUS	VC	VERTICAL CURVE
ABS ACRYLONITRILE—BUTADIENE—STYRENE COORD COORDINATE AC ASPHALTIC CONCRETE OR ALTERNATING COTG CLEAN—OUT TO GR	ADE FLR	FLOOR FLOW LINE	MACH MAN	MACHINE MAGNETIC	RC RCP	REINFORCED CONCRETE REINFORCED CONCRETE PIPE	VCP VERT	VITRIFIED CLAY PIPE VERTICAL
CURRENT OR ACTIVATED CARBON COP COPPER	FLEX	FLEXIBLE	MAN	MANUAL	RD	ROOF DRAIN OR ROAD	VOL	VOLUME
ACI AMERICAN CONCRETE INSTITUTE CPLG COUPLING ACP ASPHALTIC CONCRETE PAVEMENT CPVC CHLORINATED POLY	FLG FLG	FLANGE	MATL	MATERIAL	RDCR	REDUCER, REDUCING	VTC	VENT THROUGH CEILING
ACP ASPHALTIC CONCRETE PAVEMENT CPVC CHLORINATED POLY ADDL ADDITIONAL CS CAST STEEL OR		FOUND FINISH	MAX MB	MAXIMUM MACHINE BOLT	RECIRC RED	RECIRCULATION REDUCING	VTR VSS	VENT THROUGH ROOF VOLATILE SUSPENDED SOLIDS
ADJ ADJACENT OR ADJUSTABLE CTRD CENTERED	FO	FIBER OPTIC	мсс	MOTOR CONTROL CENTER	REF	REFERENCE, REFER		
AER AERATION CTR CENTER AFF ABOVE FINISH FLOOR CTSK COUNTERSUNK	FS	FLOOR SINK	MECH MEMB	MECHANICAL, MECHANISM	REG REINF	REGULATING, REGISTER REINFORCE. REINFORCED	l w	WEST, WASTE, WIDE FLANGE (BEAM)
AGGR AGGREGATE CU FT CUBIC FOOT	G	GAS	MET	MEMBRANE METAL	REQD	REQUIRED	W/	WITH '
AH AIR HANDLER CU IN CUBIC INCH	GA	GAGE, GAUGE	MFR	MANUFACTURER	REV	REVISION	W/O WC	WITHOUT WATER COLUMN OR WATER CLOSET
AIR CONT AIR CONDITIONING AISC AMERICAN INSTITUTE OF STEEL CULV CULVERT	GAL GALV	GALLON GALVANIZED	MG MGD	MILLION GALLONS MILLION GALLONS PER DAY	RF RND	ROOF, RAISED FACE ROUND	WCO	WALL CLEANOUT
CONSTRUCTION CV CHECK VALVE	GEN	GENERATOR	мн	MANHOLE, MONORAIL HOIST	RPM	REVOLUTIONS PER MINUTE	WD WH	WOOD
AL ALUMINUM, ALUM CW COLD WATER ALTN ALTERNATIVE, ALTERNATE CWO CHAIN WHEEL OPE	RATOR GI	GROUND FAULT INTERRUPTER GALVANIZED IRON	MI MID	MALLEABLE IRON	RP RST	RADIUS POINT REINFORCING STEEL, RESET	W S	WATER HEATER WATER STOP, WATER SURFACE
ANOD ANODIZED CYL CYLINDER	GIS	GEOGRAPHIC INFORMATION SYSTEM	MIL	MIDDLE 1/1,000 INCH	RT	REGULATING TANK, RADIOGRAPHIC, RIGHT	WSP	WELDED STEEL PIPE
ANSI AMERICAN NATIONAL STANDARDS INSTITUTE	GL	GLASS	MIN	MINIMUM OR MINUTE	RV	ROOF VENT	WSTP WT	WATER STOP WEIGHT
APVD APPROVED d PENNY APPROX APPROXIMATE DBA DEFORMED ANCHOR	GLAZ R GLV	GLAZING GLOBE VALVE	MISC MJ	MISCELLANEOUS	R/W RW	RIGHT OF WAY RAW WATER	WWM	WELDED WIRE MESH
ARCH ARCHITECTURAL DBL DOUBLE	GND	GROUND	MTL	MECHANICAL JOINT METAL OR MATERIAL	'`''	TO THE TOTAL PARTY OF THE PARTY		
ARV AIR RELEASE VALVE DC DIRECT CURRENT ASME AMERICAN SOCIETY OF MECHANICAL DET DETAIL	GPD GPH	GALLONS PER DAY GALLONS PER HOUR	MTG	MOUNTING	s	SOUTH, SECOND	XMTR	TRANSMITTER
ENGINEERS DEG DEGREE	GPM	GALLONS PER HOUR GALLONS PER MINUTE	MTR MPH	MOTOR MILES PER HOUR	SA	SAMPLE, SAMPLE LINE	XS	EXTRA STRONG
ASTM AMERICAN SOCIETY FOR TESTING AND DEMO DEMOLITION, DEMO		GRADE	MWS	MAXIMUM WATER SURFACE	SR	SUPPLY AIR REGISTER		
MATERIAL DI DUCTILE IRON, DRO ASSY ASSEMBLY DIA DIAMETER	OP INLET GR BRI	K GRADE BREAK, GRADE CHANGE GRATING	l _N	NORTH	SCFM SCH	STANDARD CUBIC FEET PER MINUTE SCHEDULE	YD	YARD
AUTO AUTOMATIC DIAG DIAGONAL	GV	GATE VALVE	NAVD	NORTH NORTH AMERICAN VERTICAL DATUM	SD	STORM DRAIN	YR	YEAR
AUX AUXILIARY DIAPH DIAPHRAGM AVAR AIR VACUUM AND AIR RELEASE VALVE DIFF DIFFUSER	GSP	GALVANIZED STEEL PIPE GYPSUM BOARD	NBS	NATIONAL BUREAU OF STANDARDS	SECT SHT	SECTION SHEET		
AVAR AIR VACUUM AND AIR RELEASE VALVE DIFF DIFFUSER AWS AMERICAN WELDING SOCIETY DIM DIMENSION	GYP	GIPSUM BUARD	NC NE	NORMALLY CLOSED NORTHEAST	SIM	SIMILAR		
AWWA AMERICAN WATER WORKS ASSOCIATION DIP DUCTILE IRON PIPE	: Н	HEIGHT	NEC	NATIONAL ELECTRIC CODE	SLP SP	SLOPE		
BC BEGIN CURVE, BOLT CIRCLE DIR DIRECTION	HAS	HEADED ANCHOR STUD	NEMA	NATIONAL ELECTRICAL MANUFACTURES ASSOCIATION	SPEC	SPACING, STATIC PRESSURE SPECIFIED, SPECIFICATION		
BF BLIND FLANGÉ, BUTTERFLY VALVE DIST DISTANCE	HB HD	HOSE BIBB HUB DRAIN	NF	NEAR FACE	SPECS	SPECIFICATIONS		
BFP BACK FLOW PREVENTER DIV DIVISION BFV BUTTERFLY VALVE D-LOAD LOADING CONDITION	. son pon HDPE	HIGH DENSITY POLYETHYLENE	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION	SPG SPKR	SPACING SPEAKER		
BHD BULKHEAD DMPR DAMPER	N FOR RCP HDR HDW	HEADER HARDWARE	NIC NO	NOT IN CONTRACT NUMBER OR NORMALLY OPEN	JI KIK	31 EARER		
BHP BRAKE HORSEPOWER DN DOWN, DECANT	HEX	HEXAGONAL	NOM	NOMINAL				
BLDG BUILDING DOT DEPARTMENT OF TI BLK BLACK OR BLOCK DP DAMP PROOFING	RANSPORTATION HGR	HANGER HOLLOW METAL	NPT NS	NATIONAL PIPE THREAD NEAR SIDE	SPLY	SUPPLY		
BLKG BLOCKING DR DOOR, DRAIN	HORIZ	HORIZONTAL	NTS	NOT TO SCALE	SPRT SQ	SUPPORT SQUARE		
BLT BOLT DS DRENCH SHOWER OF DOWNSPOUT	& EYE WASH, HP	HORSEPOWER, HIGH PRESSURE, HEAT	NW	NORTHWEST	SQ FT	SQUARE FOOT		
BO BLOW-OFF ASSEMBLY, BLOW-OFF DWG DRAWING	H/P H	PUMP PT HIGH POINT			SR SS	SUPPLY REGISTER SANITARY SEWER, SERVICE SINK		
BOT BOTTOM DWL DOWEL	HŔ	HEATING RETURN, HOUR, HOSE RACK	ос	ON CENTER, OVER-CROSSING	SST	STAINLESS STEEL		
BPS BOOSTER PUMPING STATION BPV BACK PRESSURE VALVE	HS HTG	HIGH STRENGTH HEATING	OD OF	OUTSIDE DIAMETER, OVERALL DIMENSION OUTSIDE FACE	STA	STATION		
BRK BRICK E(UG) ELECTRICAL (UNDE	RGROUND)	HEATER	OH	OVERHEAD	STD STIFF	STANDARD STIFFENER		
B & S BELL & SPIGOT E(OH) ELECTRICAL (OVERFILE BTWN BETWEEN		HOSE VALVE	OPER	OPERATOR, OPERATING	STL	STEEL		
BTWN BETWEEN E EAST BTU BRITISH THERMAL UNIT EA EACH	HVAC	HEATING, VENTILATING AND AIR CONDITIONING	OPNG OPP	OPENING OPPOSITE	STRL SYM	STRUCTURAL SYMBOL		
BUR BUILT-UP ROOFING EB EXPANSION BOLT	HWL	HIGH WATER LEVEL	ORIG	ORIGINAL	SYMM	SYMMETRICAL		
BVC BEGIN VERTICAL CURVE BW BACK WASH, FILTER BACKWASH ECC ECCENTRIC	HWO HYD	HANDWHEEL OPERATED HYDRANT, HYDRAULIC	OVHD C	OUT TO OUT OVERHEAD	SYS	SYSTEM		
EF EACH FACE, EXHAL		III DIVACIO	OZ	OUNCE				
C CENTIGRADE OR CELSIUS EFF EFFLUENT EG EXISTING GRADE	ICFM	INLET CUBIC FEET PER MINUTE						
CAB CABINET EL ELEVATION, ELBOW	ID	INSIDE DIAMETER	PV	PAVEMENT	T T&B	THICKNESS, TOP, TOILET TOP AND BOTTOM		
CAP CAPACITY ELEVATION	DOMES IF	INSIDE FACE	PC	PORTLAND CEMENT, POINT OF CURVE OR PRIMARY CLARIFIER	T&G	TONGUE AND GROOVE		
CB CATCH BASIN FMB FMBFDMFNT	RONIC IN IN LB	INCH INCH-POUND	PCC	PORTLAND CEMENT CONCRETE	TAN	TANGENT		
CC CENTER TO CENTER EMER EMERGENCY	IN LB	INCH-POUND	PCF PG	POUNDS PER CUBIC FOOT PRESSURE GAUGE	TBM TBC	TEMPORARY BENCH MARK TOP OF CATCH BASIN		
CCP CONCRETE CYLINDER PIPE ENCL ENCLOSURE CD CEILING DIFFUSER CHEMICAL DRAIN ENG ENGINE	INSUL	INSULATING	PE	PLAIN END, POLYELECTROLYTE POLYMER,	TC	TOP OF CURB, TOP OF CONCRETE		
AND VENT ENGR ENGINEER	IE INVT	INVERT ELEVATION INVERT	"	POLYETHYLENE	TDH TECH	TOTAL DYNAMIC HEAD TECHNICAL		
CER CERAMIC EP EDGE OF PAVEMEN	T IPS	IRON PIPE SIZE	pH PI	HYDROGEN ION CONCENTRATION PRESSURE INDICATOR, POINT OF INTERSECTION	TEL	TELEPHONE		
CFM CUBIC FEET PER MINUTE FOL SP. FOUALLY SPACED	IRR	IRRIGATION	PJF	PREMOLDED JOINT FILLER	TEMP THK	TEMPERATURE, TEMPORARY THICK		
CFS CUBIC FEET PER SECOND EQUIP EQUIPMENT	JT	JOINT	PL PLYWD	PLATE, PROPERTY LINE, PLACE PLYWOOD	THR'D	THREADED		
CHED CHALKBOARD ETC ETCETERA EVAP EVAPORATOR			PM	PUMP, PROPELLER METER	TK	TANK		
CHEM CHEMICAL EVAP EVAP CHARTON	ve k	KELVIN, KILO OR THOUSAND POUNDS	PI PT	POINT OF BEGINNING POINT OF TANGENT	T.O. TOG	TOP OF TOP OF GRADE		
CHG CHANGE EW EACH WAY, EYE WA	ASH KG	KILOGRAM	PJF	PREMOLDED JOINT FILLER	TP	TELEPHONE POLE, TURNING POINT		
CI CAST IRON FXP AND FXPANSION BOLT.	ANCHOR KW	KILOVOLT KILOWATT	PL	PLATE, PROPERTY LINE, OR PLACE	TYP	TYPICAL		
CIP CAST IRON PIPE EXP JT EXPANSION JOINT	KWH	KILOWATT HOUR	PP PPD	POTASSIUM PERMANGANATE POUNDS PER DAY				
CJ CONSTRUCTION JOINT EXT EXTERIOR EXTENSI	ON. EXTERNAL L	LEFT OR LITER	PPH	POUNDS PER HOUR	UBC UD	UNIFORM BUILDING CODE UNDERDRAIN		
CJP COMPLETE JOINT PENETRATION	LAB	LABORATORY	PPM PR	PARTS PER MILLION PAIR	UG	UNDERDRAIN UNDERGROUND		
CL CHLORINATOR, CHAIN LINK, CLEARANCE, CENTERLINE OR CHLORINE	LAV LB	LAVATORY POUND	PRC	POINT OF REVERSE CURVE	UH	UNIT HEATER		
CLR CLEAR	LC	LENGTH OF CURVE	PREFAB PRI	PREFABRICATED PRIMARY	UL UNO	UNDERWRITERS LABORATORIES UNLESS OTHERWISE NOTED		
CLST CEMENT LINED STEEL PIPE F FAHRENHEIT, FACE CM CENTIMETER FARRICATION FARR	LF	LINEAR FEET	PRV	PRESSURE REGULATING/REDUCING VALVE	LICDD	U.S. BUREAU OF RECLAMATION		
CML & C CEMENT MORTAR LINED AND COATED FR FLAT BAR	ICATE, OR FABRICATED LG	LENGTH OR LONG LEFT HAND	PS	PRESSURE SWITCH, PUMP STATION				
CMP CORRUGATED METAL PIPE FC FLEXIBLE COUPLING	G LL	LIVE LOAD	PSF PSI	POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH				
CMU CONCRETE MASONRY UNIT FCA FLANGE COUPLING CO CLEANOUT FCO FLOOR CLEANOUT	ADAPTER LLV LOL	LONG LEG VERTICAL LENGTH OF LINE	PSIG	POUNDS PER SQUARE INCH GAUGE				
COL COLUMN FD FLOOR DRAIN	LPT	LOW POINT	PT PT	POINT OF TANGENT, PRESSURE TRANSDUCER				
COMM COMMUNICATION FDN FOUNDATION COMB COMBINED FDR FEEDER	LR LT	LONG RADIUS LIGHT, LEFT	PTDF	PRESSURE TREATED DOUGLAS FIR				
- FUR FEEDER	LVL	LEVEL	PVC PUE	POLYVINYL CHLORIDE PUBLIC UTILITY EASEMENT				
 	ı		IFUE	I ODLIC UTILITY EASEMENT	I		1	





WEBER STATE UNIVERSITY
OGDEN CITY, UTAH
DESIGN

DESIGN

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DESIGN

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PROJECT 145-08-01 prawn J. C.C.

ABBREVIATIONS

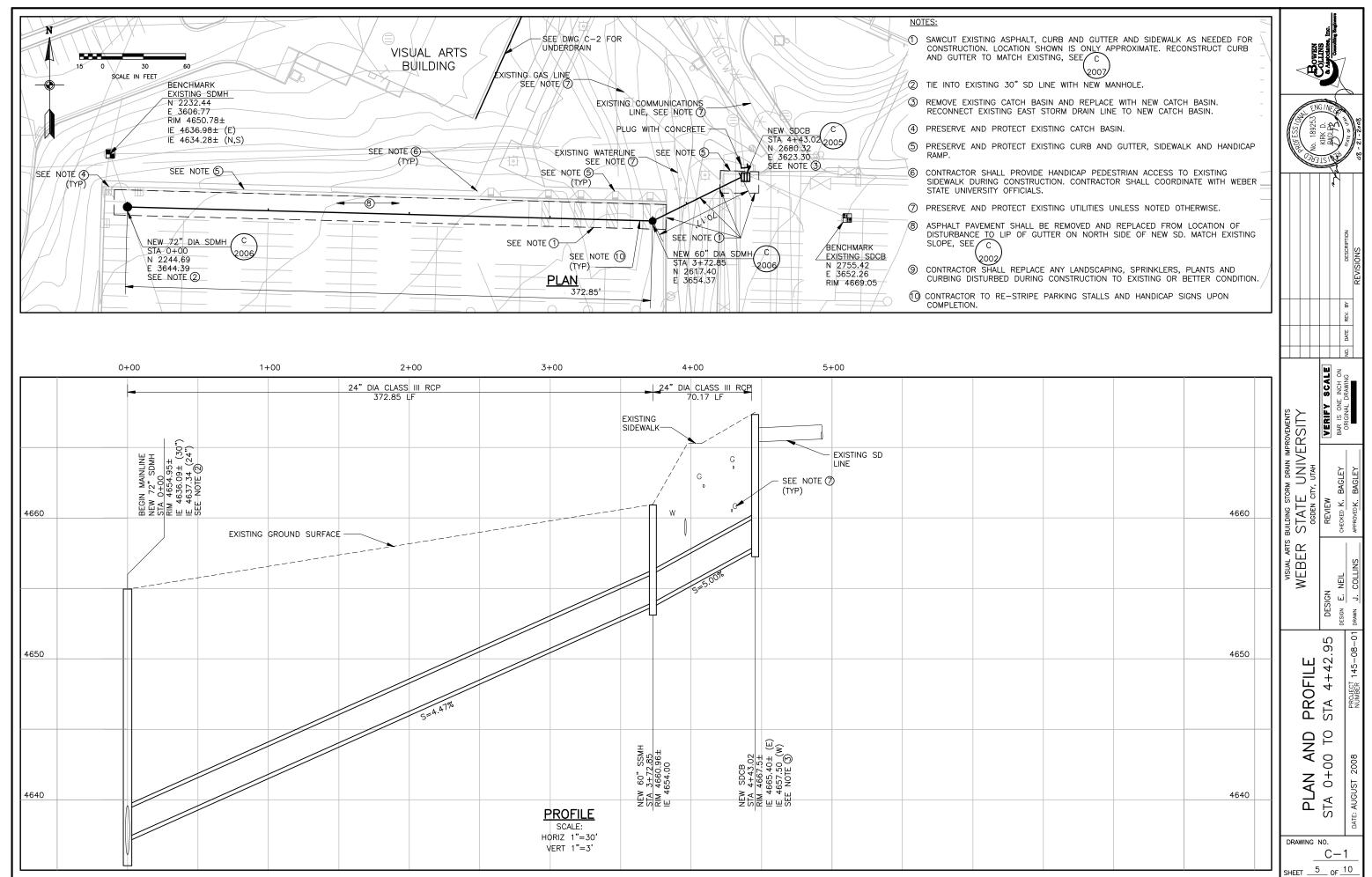
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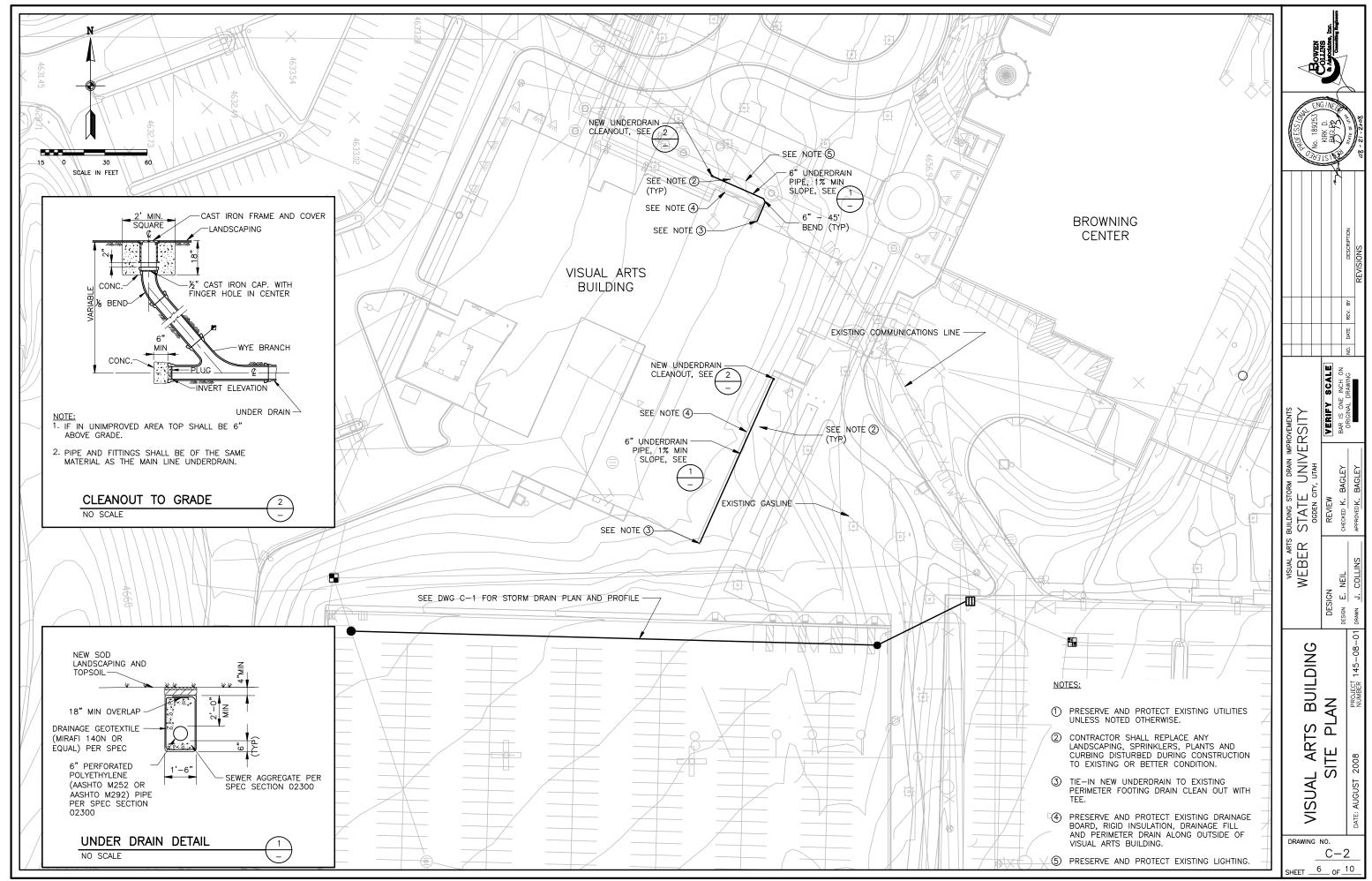
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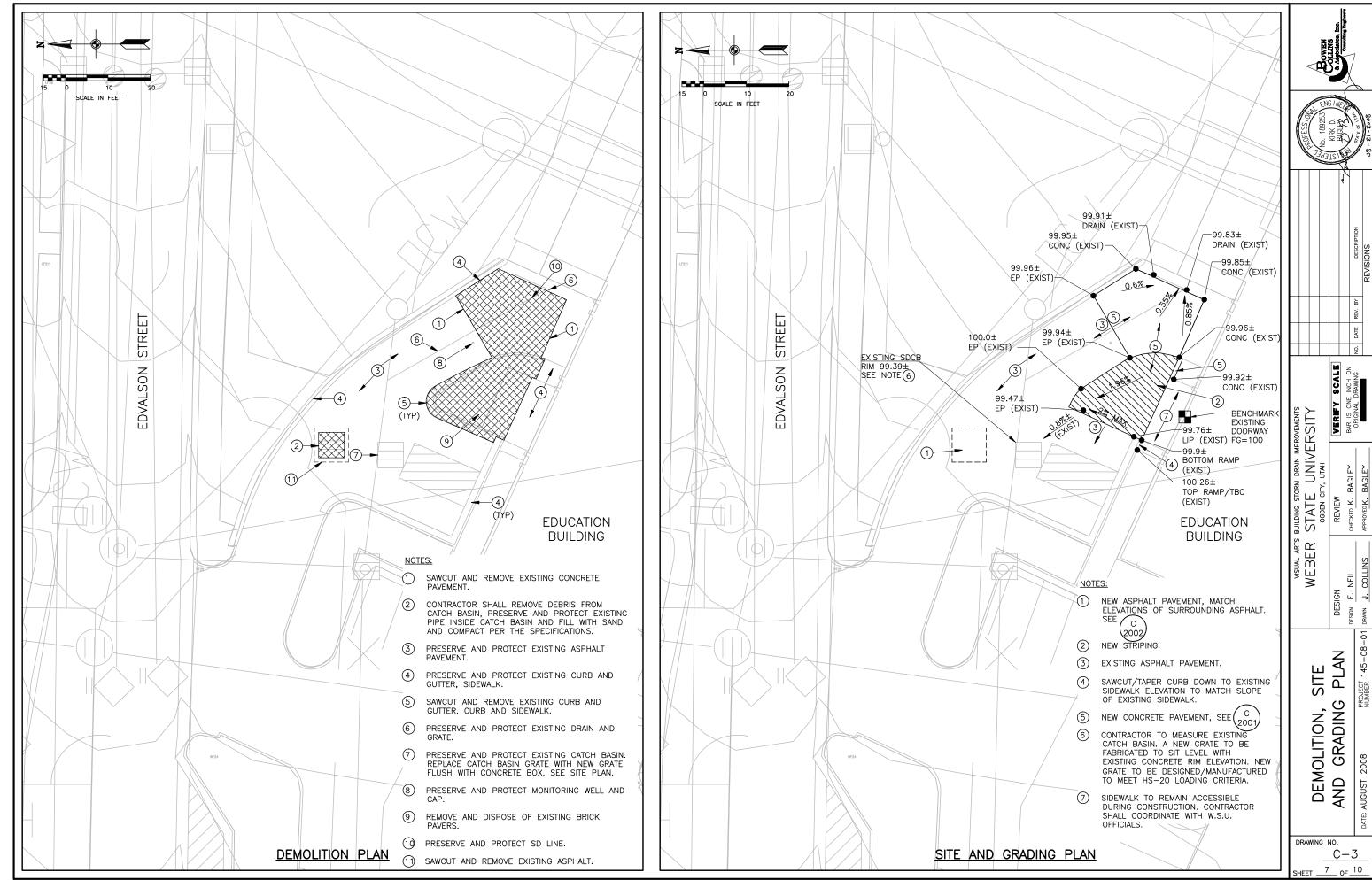
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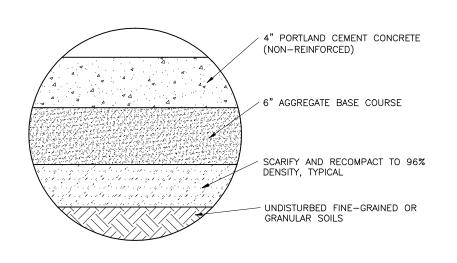
G-4

SHEET 4 OF 10



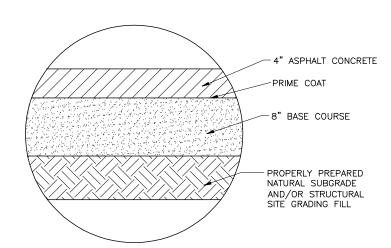






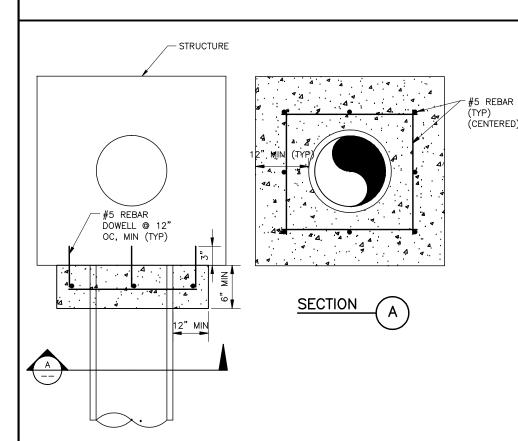
NOTE:
CONCRETE RESTORATION SHALL BE IN ACCORDANCE WITH APWA STANDARDS INCLUDING REBAR AT THE JOINT WHERE NEW CONCRETE JOINS EXISTING CONCRETE, SEE PLAN. 256

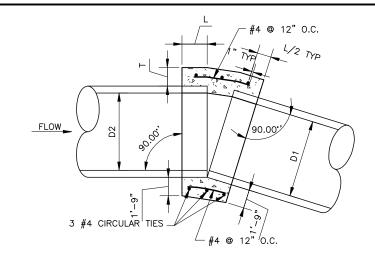
CONCRETE PAVEMENT SECTION



ASPHALT PAVEMENT







NOTES:
1. CONCRETE COLLAR REQUIRED WHERE THE GRADE CHANGE

EXCEEDS 0.10 FT PER FOOT. 2. WHERE PIPES OF DIFFERENT DIAMETERS ARE JOINED WITH A CONCRETE COLLAR, L AND T SHALL BE THOSE OF LARGER PIPE D1 OR D2, WHICHEVER IS GREATER. FOR ARCH PIPES, USE THE LARGEST

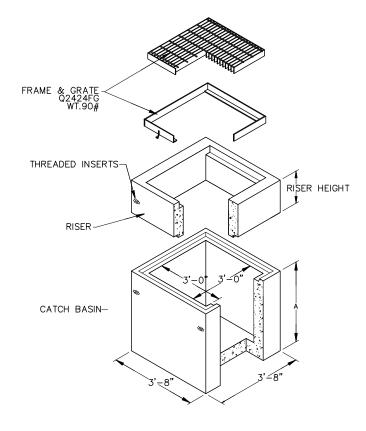
- 3. FOR PIPE LARGER THAN 66" A SPECIAL COLLAR DETAIL IS REQUIRED.
- 4. FOR PIPE SIZE NOT LISTED USE NEXT SIZE LARGER.
 5. CONCRETE SHALL BE CLASS 4000 UDOT STANDARD AND SHALL CONTAIN NOT LESS THAN 6.5 BAGS OF TYPE II CEMENT PER CUBIC
- WHERE REINFORCING IS REQUIRED THE DIAMETER OF THE CIRCULAR TIES SHALL BE D = $(2 \times \text{WALL THICKNESS}) = 8^{"}$.

 7. A CONCRETE COLLAR IS REQUIRED WHEN DIRECTED BY THE

	U	_	'
	12"	1.0'	4"
т	18"	1.0'	5 "
	24"	1.0'	6"
	36"	1.5'	8"
	48"	1.5'	10"
	54"	1.5'	10"
	60"	1.75'	11"
	66"	1.75'	11"
	ELIP.	3'	12"

CONCRETE PIPE COLLAR





RISER		
HEIGHT	CODE	WEIGHT
1'	CB221R	750#
2'	CB222R	1,500#
3'	CB223R	2,250#

CA	тсн в	ASIN		
	HEIGH	T A	CODE	WEIGHT
	2'	2'-5 1/2"	CB222	1,300#
	3'	3'-5 1/2"	CB223	1,700#
	4'	4'-5 1/2"	CB224	2,100#

NOTES: 1. VAULTS ARE DESIGNED TO MEET ASTM C858 WITH AASHTO HS-20 LOADING.

- 2. CHECK HARDWARE SECTION FOR OPTIONAL ACCESSORIES.

 3. FRAME & GRATE MAY BE CAST IN CATCH BASIN OR RISER.

 4. SEE DETAIL

 C

 FOR PIPE TO STRUCTURE COLLAR.

3' X 3' CATCH BASIN



DRAWING NO.

C-4SHEET 8 OF 10

SCALE

BUILDING STORM DRAIN IMPROVEMENTS
STATE UNIVERSITY
OGDEN CITY, UTAH

VISUAL ARTS WEBER

NTS

PIPE TO STRUCTURE COLLAR

CONCRETE:
ALL CONCRETE MATERIALS SHALL COMPLY WITH THE STANDARDS SPECIFIED IN THE LATEST EDITION OF THE ACI 318 BUILDING CODE. EACH MIX DESIGN SHALL BE REVIEWED BY AN APPROVED INDEPENDENT LABORATORY, AND SHALL BE SUBMITTED TO THE ENGINEER AT LEAST 2 WEEKS PRIOR TO THE PLACEMENT OF CONCRETE. CONTRACTOR SHALL INFORM THE ENGINEER AT LEAST 2 DAYS PRIOR TO PLACING ANY CONCRETE SO THAT THE ENGINEER MAY HAVE THE OPPORTUNITY TO

CONCRETE SHALL CONSIST OF TYPE III OR III (HE) CEMENT. THE MAXIMUM WATER-CEMENT RATIO SHALL BE 0.45.

CONCRETE TESTING SHALL BE PERFORMED BY AN APPROVED INDEPENDENT TESTING LABORATORY. THE TESTING AGENCY SHALL TEST (4) CYLINDERS FROM EACH CLASS OF CONCRETE USED EACH DAY. A MINIMUM OF (1) SAMPLE MUST BE TAKEN FROM EACH 40 CUBIC YARDS OF CONCRETE.

LOCATION	SPECIAL	SLUMP	AGGREGATE	COMPRESSIVE
-	INSPECT.	(MAX)	(MAX SIZE)	STRENGTH (PSI)
FOOTINGS	YES	4	1" DIA	4000
STEM WALLS	YES	4	1" DIA	4000
SLAB ON GRADE	YES	5	3/4" DIA	4000

ANY CONCRETE THAT FAILS TO MEET SPECIFICATIONS SHALL BE REMOVED AND REPLACED AT THE EXPENSE OF THE CONTRACTOR.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONSTRUCTION, DESIGN, PLACEMENT AND REMOVAL OF ALL FORMWORK. ALL SHORING DURING PLACEMENT OF CONCRETE IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

CONCRETE SHALL BE SPECIALLY INSPECTED PER IBC 2006, TABLE 1704.4

CONCRETE REINFORCING:

ALL REINFORCING BARS SHALL CONFORM TO ASTM A-615 GRADE 60, Fy=60,000 PSI MIN., UNLESS NOTED OTHERWISE. BARS SHALL BE TIED SECURE PRIOR TO PLACEMENT OF CONCRETE TO MAINTAIN PROPER PLACEMENT AFTER CONCRETE IS IN PLACE. LAP ALL BARS 40 DIAMETERS UNLESS NOTED OTHERWISE. SPLICE BARS ONLY WHERE SHOWN ON PLANS.

MAINTAIN THE FOLLOWING CONCRETE COVERAGES FOR CONCRETE REINFORCING:

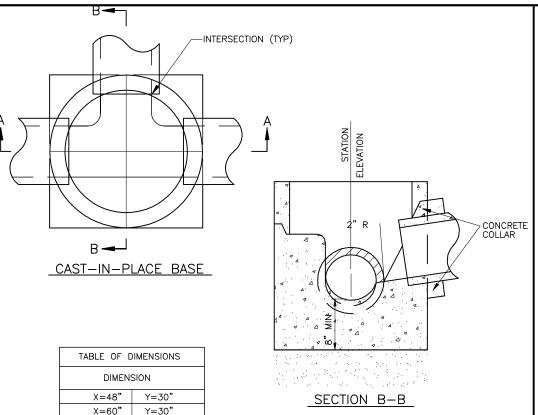
UNFORMED SURFACES IN CONTACT WITH EARTH	3"	
FORMED SURFACES IN CONTACT WITH EARTH	2"	
FORMED SURFACES EXPOSED TO OUTSIDE WEATHER	2"	
SLABS AND WALLS NOT EXPOSED TO WEATHER	1	1/2"
CLEAR DISTANCE BETWEEN BARS	2" !	Ú.N.C

SHOP DRAWINGS OF ALL BARS AND LOCATIONS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION. NORMAL WEIGHT CONCRETE SHALL HAVE A UNIT WEIGHT OF POUNDS PER CUBIC FOOT. USE OF CALCIUM CHLORIDE IS NOT PERMITTED IN ANY CONCRETE ALL OTHER ADDITIVES AND ADMIXTURES MUST HAVE THE WRITTEN APPROVAL OF THE ENGINEER. THE ENGINEER SHALL HAVE 10 BUSINESS DAYS TO REVIEW SHOP DRAWINGS.

GENERAL NOTES

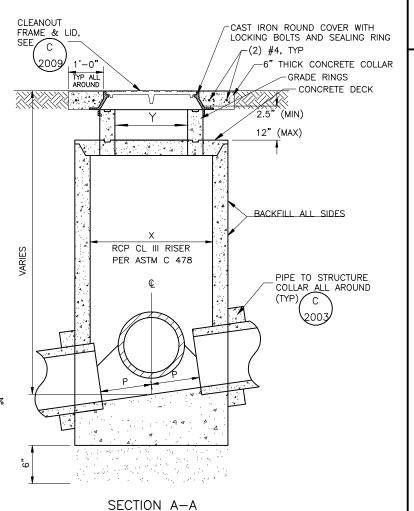
- 1. ALL DETAILS, SECTIONS, AND NOTES SHOWN ON THE DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS ELSEWHERE UNLESS NOTED OR SHOWN OTHERWISE. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER THESE GENERAL NOTES.
- 2. REFER TO THE SPECIFICATIONS FOR INFORMATION NOT COVERED BY THESE GENERAL NOTES OR THE STRUCTURAL DRAWINGS.
- 3. ALL CONSTRUCTION AND INSPECTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE INTERNATIONAL BUILDING CODE. THE CONTRACTOR SHALL COORDINATE ALL REQUIRED INSPECTIONS AND SHALL NOT PROCEED WITH THE WORK INVOLVED UNTIL THE INSPECTIONS HAVE BEEN DONE.
- 4. ALL ASTM DESIGNATIONS SHALL BE AS AMENDED TO DATE, U.N.O.
- 5. THE CONTRACTOR MUST SUBMIT A WRITTEN REQUEST FOR, AND OBTAIN THE ENGINEER'S WRITTEN PRIOR APPROVAL FOR ALL CHANGES, MODIFICATIONS, AND/OR SUBSTITUTIONS.
- 6. THE CONTRACTOR SHALL COORDINATE AND VERIFY ALL DIMENSIONS AND ELEVATIONS WITH THE MECHANICAL, AND FLECTRICAL DRAWINGS.
- 7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SAFETY AND PROTECTION IN AND AROUND THE JOB SITE AND/OR ADJACENT PROPERTIES.
- 8. THE CONTRACTOR SHALL PROVIDE ADEQUATE TEMPORARY BRACING FOR ALL PORTIONS OF THE STRUCTURES UNTIL THE ENTIRE STRUCTURE IS COMPLETE.
- 9. OBSERVATION VISITS TO THE SITE BY THE ENGINEER SHALL NEITHER BE CONSTRUED AS INSPECTION NOR APPROVAL OF CONSTRUCTION.
- 10.IF EXISTING CONDITIONS AT THE SITE ARE NOT AS SHOWN ON THE DRAWINGS. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY. CHANGES MAY OCCUR DUE TO SUCH VARIATIONS IN EXISTING CONDITIONS.
- 11.NO PENETRATIONS SHALL BE ALLOWED THROUGH ANY CONCRETE BEAMS, COLUMNS, PIERS, OR JAMBS, WITHOUT THE ENGINEER'S WRITTEN APPROVAL. MECHANICAL AND/OR OTHER PENETRATIONS SHALL BE RE-ROUTED AT THESE
- 12.PRIOR TO PLACING STRUCTURAL FILL, THE EXPOSED SOILS SHALL BE SCARIFIED TO A DEPTH OF 6 INCHES; BROUGHT TO WITHIN 2 PERCENT OF THE OPTIMUM MOISTURE CONTENT. EXPOSED SOILS SHALL THEN BE COMPACTED TO AT LEAST 95 % OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557.
- 13.MINOR STRUCTURES AND CONCRETE FLATWORK SHALL BE ON A 6 OR 4-INCH LAYER OF COMPACTED GRAVEL. THE LAYER OF COMPACTED GRAVEL SHALL CONSIST OF TYPE G ROAD BASE WITH A 1—INCH MAXIMUM PARTICLE SIZE AS SPECIFIED. THE GRAVEL LAYER SHALL BE COMPACTED TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM-D1557.

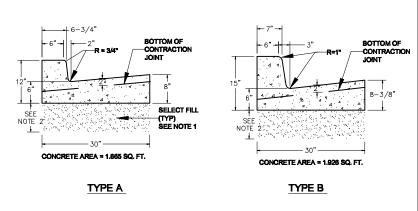


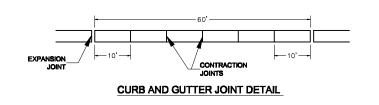


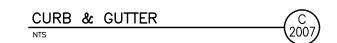
X=72"

Y=30"







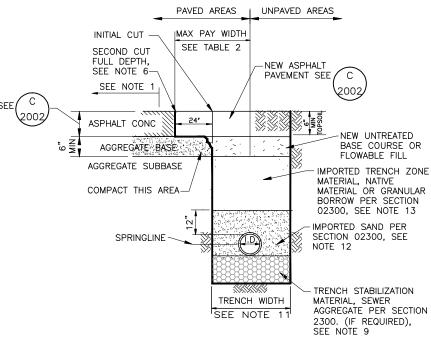


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- ADDITIONAL PAVEMENT REMOVAL: REMOVE ADDITIONAL PAVEMENT TO A PAINTED LANE STRIPE, A LIP OF GUTTER, A CURB, AN EXISTING PAVEMENT PATCH, OR AN EDGE OF THE PAVEMENT IF SUCH A FEATURE IS WITHIN 2-FEET OF THE SECOND SAW-CUT. IF MORE THAN 50% OF THE PERMANENT SURFACING OF A TRAVELED LANE IS IMPACTED BY THE EXCAVATION, THE ENTIRE LANE WIDTH SHALL BE SAW-CUT, REMOVED, AND REPLACED.
- UNTREATED BASE COURSE: PROVIDE MATERIAL SPECIFIED IN SECTION 02300. PLACE AND COMPACT PER SECTION 02300. MAXIMUM LIFT THICKNESS IS 6-INCHES BEFORE COMPACTION.
- 3. SHORING: SHORE IN CONFORMANCE WITH SECTION 02300.
- 4. TACK COAT: FULL TACK COAT COVERAGE ON ALL VERTICAL SURFACES.
- 5. ASPHALT PAVEMENT: USE ASPHALT CONCRETE SPECIFIED IN SECTION 02741
 - INSTALL IN LIFTS NO GREATER THAN 3-INCHES AFTER COMPACTION. COMPACT EACH LIFT IN CONFORMANCE WITH SECTION 02741.
 - PLANE OFF SURFACE DISTORTIONS THAT EXCEED 1/4 INCH DEVIATION IN 10 FEET. COAT PLANED SURFACES WITH A CATIONIC OR ANIONIC EMULSION AS APPROVED BY CAMPUS PERSONNEL.
 - ASPHALT PAVEMENT THICKNESS DEPTH SHALL EQUAL EXISTING PLUS 1-INCH, 4" MINIMUM.
 - E. USE 1/2" GRADATION PER SECTION 02741.
- 6. JOINT REPAIR: IF A CRACK OCCURS AT THE "T" PATCH CONNECTION TO EXISTING PAVEMENT OR AT ANY STREET FIXTURE, SEAL THE CRACK PER SECTION 02741.
- 7. PATCH REPAIR: REPAIR THE ASPHALT PAVEMENT PATCH IF ANY OF THE FOLLOWING CONDITIONS WITHIN THE PATCH OCCUR.
 - A. CRACKS AT LEAST 1-FOOT LONG AND 1/4-INCH WIDE OCCUR MORE OFTEN THAN 1 IN 10 SQUARE FEET.
 - B. PAVEMENT SURFACE DISTORTION EXCEEDS 1/4-INCH DEVIATION IN 10-FEET.
 - C. ASPHALT RAVELING IS GREATER THAN 1 SQUARE FOOT PER 100 SQUARE FEET.
- 8. EQUIPMENT: ALL ASPHALT PAVEMENT SHALL BE INSTALLED WITH MECHANICAL PAVING EQUIPMENT UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- 9. ENGINEER MUST APPROVE USE OF TRENCH STABILIZATION MATERIAL PRIOR TO INSTALLATION.
- 10. PIPE SHALL BE CENTERED IN TRENCH
- 11. MAXIMUM WIDTH OF TRENCH MEASURED AT THE TOP OF PIPE, INCLUDING SHEATHING SHALL BE AS FOLLOWS:

PIPE I.D.	MAX TRENCH WIDT
< 33"	O.D. + 24"
> 33"	O.D. + 30"

- 12. PLACE BACKFILL IN PIPE ZONE AT OPTIMUM MOISTURE IN 6" HORIZONTAL LAYERS. COMPACT TO 96% ASTM D-698 BY DENSITY.
- 13. TRENCH BACKFILL ZONE BACKFILL SHALL MEET REQUIREMENTS OF SECTION 02300 AND 02630.



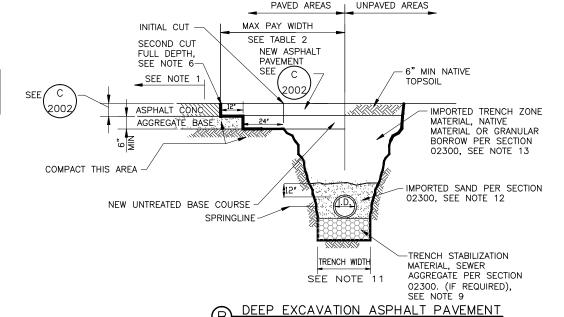
A SHALLOW EXCAVATION ASPHALT PAVEMENT OR LESS FROM PAVEMENT SURFACE TO BOTTOM OF EXCAVATION)

TABLE 1

LOCATION	Α	В	С
ALL OTHER STREETS	6" (AC-10)	NATIVE MATERIAL	IMPORTED SAND

TABLE 2

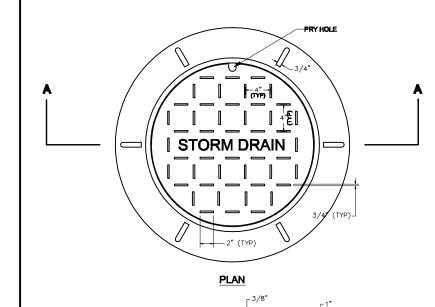
PIPE MATERIAL	MAXIMUM PAY FULL TRENCH	
AND SIZE	SHALLOW	DEEP
24" RCP	12'	18'

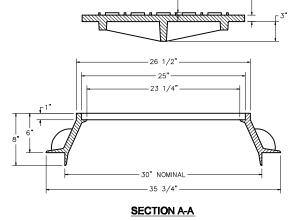


TYPICAL TRENCH DETAIL 2008

30° FRAME AND COVER

- 1. CASTING: Gray Iron class 30 minimum per ASTM A 48
- INSCRIPTIONS: Cost the words "STORM DRAIN" on the dover flush with the suri
- 4. HEAT NUMBER: Place foundry and heat number on the Inside of the forme and on the bottom of the
- 6. LOCKING: Provide covers for membrise located in essements, rights-of-way, allays, parting lots, and all other pieces except paved streets, with allen socket set screw locking devices. Drill and tape two holes to a depth of 1 Inch at 90 degrees to pry hole and install 3/4 x 3/4 inch allen socket screws.
- 7. MANHOLE STRUCTURES: See





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